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FAO PLANT PROTECTION BULLETIN

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS - ROME

A PUBLICATION OF THE WORLD REPORTING SERVICE ON PLANT DISEASES AND PESTS

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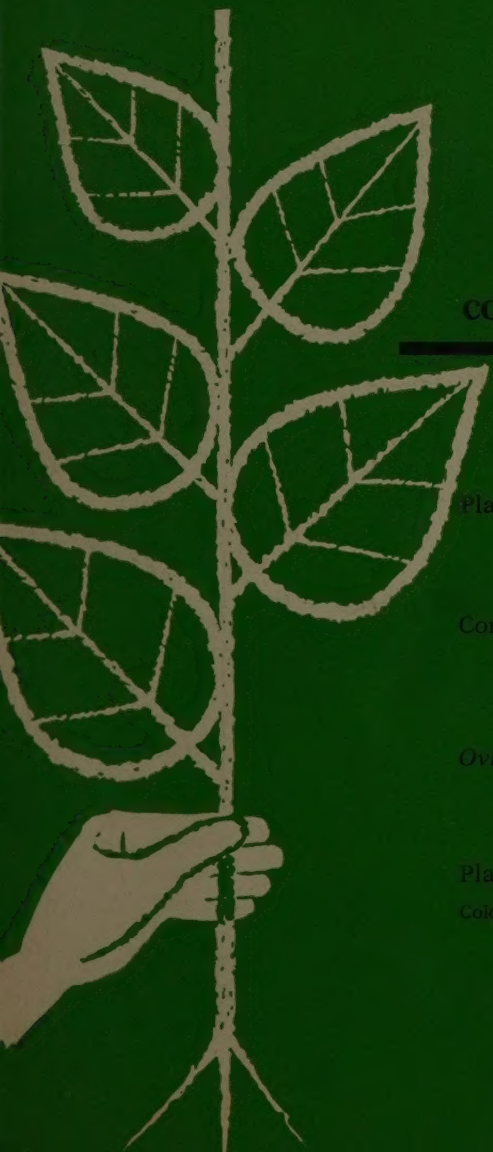

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FAO PLANT PROTECTION BULLETIN

is issued as a medium for the dissemination of information received by the World Reporting Service on Plant Diseases and Pests, established in accordance with the provisions of the International Plant Protection Convention, 1951. It publishes reports on the occurrence, outbreak and control of pests and diseases of plants and plant products of economic significance and related topics, with special reference to current information. No responsibility is assumed by FAO for opinions and viewpoints expressed in the Bulletin.

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FAO PLANT PROTECTION BULLETIN

A PUBLICATION OF THE WORLD REPORTING SERVICE ON PLANT DISEASES AND PESTS

Plant Diseases and Pests in Some African Territories

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The first meeting of the Advisory Committee on Plant Protection in Overseas Territories was convened by the Ministry of French Overseas Territories in June 1958, for the purpose of compiling a list of crop pests and diseases considered hazardous in overseas territories, and for the formulation of recommendations for specifications of pesticides to be used in these areas.

The present notes attempt to summarize the incidence of plant diseases and pests during 1958 in some of the African territories.

Ivory Coast

COFFEE. Tracheomycosis, caused by *Fusarium* (*Gibberella*) *xylarioides*, remains the principal problem, for which the development of resistant varieties seems to be the only solution. In view of this, it is essential to establish precisely the nature of resistance in certain strains of coffee. Preliminary studies aimed at finding a fungistatic substance in the tissues of the coffee tree, has failed to yield significant results. New trials will be made with extracts of higher concentrations. It is, however, of interest to note the difference in the amount of chlorogenic acid isolated by chromatography from tissues of coffee of the variety Kouilu (susceptible) and the variety Robusta (resistant). Variety Kouilu was found to contain 12 milligrams of chlorogenic acid in the bark and 4 milligrams in the wood, per 100 grams of fresh material, while variety Robusta contained 9 and 16 milligrams respectively in the bark and wood. It is at present generally agreed that the infection of *F. xylarioides* takes place in the wood only through injury. It is further thought that chlorogenic acid may carry a diastase capable of destroying the toxins produced by certain parasitic fungi. The much higher content of chlorogenic acid in the wood of the resistant variety Robusta may, therefore, be significant. Should this preliminary result be confirmed, it would be possible to establish rapidly the degree of resistance of a coffee tree, simply by determining the content of chlorogenic acid in the wood.

In general, coffee grown on the Ivory Coast appears to be rather tolerant to rust (*Hemilea vastatrix*). Co-operation in research has been established with the Estação Agronomica Nacional de Savacém in Portugal, where extensive trials for testing coffee varieties for rust resistance are being carried out.

Three strains of *Colletotrichum coffeanum*, the causal agent of anthracnose, have been determined on the Ivory Coast. This fungus, together with *Pestalotia coffeicola*, *Botryodiplodia theobromae* and occasionally *Rhizoctonia* sp., are found in bore holes of *Xyleborus* sp.

CACAO. Tests for the control of Capsids and pod rots have been performed to determine the effectiveness of different pesticides. In the

areas of Aboisso, Alepé, Grand Bassan and Dabou, control operations have been introduced by the extension services. During the heavy rainy season (April to August), diseased pods are collected, and the area is sprayed with 0.7 percent copper oxychloride plus a sticker every three weeks. During the light rainy season (August to September), spraying is done every 25 to 35 days, according to the abundance of rainfall.

Togo

COCONUT. Investigation of the Kaincopé disease of coconut palm, which is similar to the disease known as Cape St. Paul wilt in Ghana and as bronze leaf wilt in the Caribbean, is being continued. The disease is apparently not due to the direct action of physical elements of the soil nor the climate. Studies on the chemical constitution of the soil, on fertilizers and minor elements in relation to the disease, failed to determine conclusive results. A preliminary examination of a small number of plants revealed three species of nematodes in the roots of diseased palms, and this finding led to the assumption that these nematodes might be responsible for the disease. But further studies did not confirm this finding. On the contrary, the possibility that the disease is caused by a virus is not to be dismissed.

Cameroun

BANANA. *Stachylidium theobromae* and *Trachysphaera fructigena*, the causal agents of cigar-end disease, were not important in most plantations. The former occurs frequently during the dry season or during periods of low humidity, and the latter is prevalent in the rainy season. When necessary, the disease could be controlled by the removal of the perianth. A study of this disease is in progress.

COFFEE. Rust caused by *Hemileia coffeicola* was observed on Robusta coffee. *H. coffeicola* is presently less important than *H. vastatrix*, even on Arabica coffee.

Decline of *Albizzia malacocarpa*, the best shade tree for Arabica coffee in the Cameroun, appears (in 90 percent of the cases examined) to be associated with the presence of a Cerambycid beetle, *Pachystola mamillata* Dalm. Observations in this connection will be published in the near future in *L'agronomie tropicale*.

Central African Republic

COFFEE. At the Boukoko Station, DDT, BHC, endrin and dieldrin were tested for the control of the West African coffee borer, *Bixadus sierricola*. Best results were obtained with 0.5 percent dieldrin emulsion painted on the trunk, 60 to 70 centimeters above the collar of the tree. Two treatments were made annually, one at end September to October, soon after mass emergence of adults, and the other during March and April.

To develop varieties resistant to tracheomycosis, a mass selection of *Coffea excelsa* was made during 1949/50 at the Boukoko Station, resulting in the choice of 204 trees, the first progenies of which show 90 to 100 percent resistance to *Fusarium xylarioides*. These trees have been kept as breeding stock and their progenies are being further selected for productivity and quality.

Infection of *Sclerotium coffeicolum* on Excelsa coffee in nurseries ranges from negligible to 55 percent, producing zonate spots on fully developed leaves. Control of this disease has been effected by copper oxychloride in the form of 1 percent spray.

Madagascar

VANILLA. Research on Fusarium disease has been carried out in the Vanilla Laboratory at Ivoloina, in collaboration with the Plant Pathology Laboratory of Tananarive. Three parasitic species of *Fusarium* have been identified on the east coast: *Fusarium bulbigenum* var. *batatas*, *F. oxysporum* (a form morphologically close to varieties *nicotianae* and *cubense* but not parasitic on tobacco or banana), and a second form of *F. bulbigenum*. The disease frequently attacks the subterranean parts of the root system, causing a soft rot which extends to the aerial parts. It spreads rather rapidly and eventually kills the plant.

SUGAR CANE. An interesting report on the biological control of the sugar cane borer *Proceras sacchariphagus* has been submitted by an entomologist of the agricultural services of Madagascar who went on a mission to Mauritius. The principal objective of the mission (in collaboration with the Mauritius Sugar Research Institute) was to collect and send to Madagascar a hymenopterous parasite, *Xanthopimpla stemmator*. Two shipments of this parasite have now been effected.

At the Central Laboratory of Agricultural Entomology at Tananarive, a method for artificial breeding of *Trichogramma australicum*, another parasite of *Proceras sacchariphagus*, has been developed.

Control of Some Important Plant Diseases in Afghanistan

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Since August 1957, the senior writer of the present article has been engaged in the investigation of plant diseases in Afghanistan. In collaboration with officials of the Plant Protection Service of the Royal Afghan Ministry of Agriculture, efforts have been made to introduce some effective measures adaptable to local conditions, for the control of important plant diseases. Part of the work done is summarized in the present paper.

Powdery mildew of grapes

Grapevine is one of the most important crops in Afghanistan, as considerable foreign exchange is earned by the export of fresh and dried grapes to India and Pakistan. More than 40 indigenous varieties of *Vitis vinifera* are grown in the country, and among these, three varieties locally known as "Kandhari," "Kishmishi" and "Husseni" are much preferred by the growers. The main grape-growing areas are Kodaman, including Karazamir, Serai khoza, Istalef and Charikar, Chardeh Gorbund, Herat, Kandhar, Farah and Kathagan.

Powdery mildew caused by *Uncinula necator* (= *Oidium tuckeri*) is the most devastating disease in the vineyards throughout the country. In 1958, the disease caused an average loss of 50 percent of the grape crop in the Kodaman area and almost 80 percent in Chardeh Gorbund and Kathagan. On a conservative estimate, the disease causes a total loss of about U.S. $ 5 million annually in Afghanistan.

The fungus does not produce perithecia under local conditions but the mycelium is capable of overwintering in fissures and on the surface of stems. The disease appears in spring and, on the onset of hot weather in May, conidia are produced in large numbers, causing secondary infection. The disease spreads with such alarming rapidity that green bunches of grapes become crumbled and cracked in a short time, emitting an offensive odor.

During 1958, the senior writer gave demonstrations on the control of powdery mildew of grapes in the Karazamir, Kodaman and Dehaya areas. Almost complete control of the disease was obtained on 25,000 vines in Karazamir, where 10 percent lime sulphur spray was applied as an eradicant in February, followed by two protective dustings of sulphur in summer, the first during the period from 5 to 24 May, and the second from 1 to 20 June. In the Kodaman area almost 85 percent control was obtained by applying two dustings during May and June (Figure 1), whereas one single dusting in May resulted only in 60 to 70 percent control. On the other hand, the disease could not be effectively controlled where the dusting was first applied in June.

These demonstrations convinced the farmers that this disease could be controlled by means of a suitable chemical. As a result, the Royal Afghan Ministry of Agriculture proposes to establish co-operative depots in the Kodaman area during 1959, from which farmers may obtain sulphur and dusting machines. Similar demonstrations will be extended to other areas whenever facilities become available.

Bunt and leaf spot of wheat

Bunt (*Tilletia foetida*) is one of the major diseases of wheat in the Hazarajat and Maimana areas, where it is known to cause losses up to 20 percent of the crop. In other areas the disease does not appear to be very important, although it is present on both spring and winter wheats in Kabul province. Leaf spot caused by *Sep-*

Figure 1. Grapevine protected against powdery mildew *(Uncinula necator)* with the application of two dustings of sulphur during May and June, in Afghanistan.

toria tritici appears to be present throughout the country and is very serious in Kabul province, Ghazni, Kandhar and Jalalabad. As both these diseases can be controlled by seed treatment, a number of demonstrations have been carried out accordingly.

One of the principal difficulties underlying seed treatment was the lack of revolving drums or seed treaters in Afghanistan and, even when such equipment was available, it could not be transported under local conditions. Therefore, a simple device was used to replace the conventional drum. The treatment was effected in an earthenware pot, used locally as a water pitcher and known as " koza " (Figure 2), which costs only about 3 U.S. cents. In one " koza " an Afghan seer (approximately 7 kilograms) of seed could be conveniently treated. Ceresan, a Bayer product, was used for treating wheat seed and was distributed in small packets of 14 grams, each sufficient for treating 1 seer of seed. The " koza," its mouth end covered with cloth, was rolled horizontally and vertically for about five minutes. As wheat seed is broadcast at the rate of 5 to 6 seers per jirib (approximately 0.2 hectare), to treat seed for planting, 1 jirib takes about 25 minutes. As the holdings are small, this device for seed treatment has been accepted by farmers.

The Royal Afghan Ministry of Agriculture has purchased 3 tons of Ceresan and will carry out campaigns for wheat seed treatment in the Maimana and Hazarajat areas during the spring of 1959.

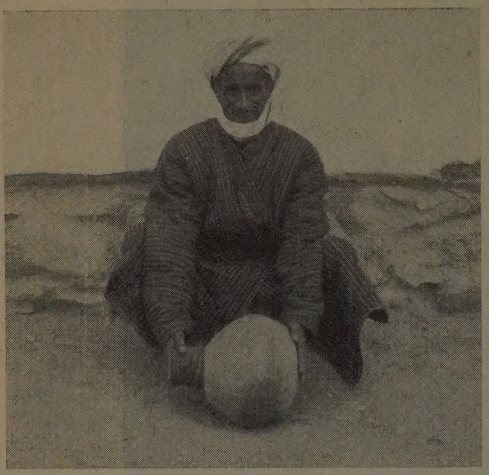

Figure 2. The of "koza," an earthenware pot, for treatment of wheat seed in Afghanistan.

Leaf curl of peach

As a serious disease of peach, leaf curl (*Exoascus deformans*) is prevalent in the Kabul area, Kodaman, Kandhar and Kathagan, where it is known to cause losses amounting to about 20 percent of the crop. It is also present in other areas but a survey to determine the extent of disease incidence has not yet been carried out.

Demonstrations on the control of leaf curl were made in Karazamir during 1958. Effective control was obtained by applying a 5 percent lime sulphur dormant spray around 15 February, when the buds were just swelling. Using crude sulphur and lime produced locally, about 800 gallons of spray were prepared by the Afghan staff under the supervision of the senior writer during that year.

Dieback of citrus

Dieback is a very important disease of citrus in the Jalalabad area, where citrus trees are extensively grown. The disease is of parasitic origin but its cause has not been established. Control measures were effected by the application of appropriate cultural practices together with pesticidal spray. Dead twigs were pruned a few inches below the point of infection and the trees were sprayed with 4-4-50 Bordeaux mixture in combination with DDT, at the ratio of 1 pound of 75 percent DDT to 50 gallons of Bordeaux mixture. This combined spray was introduced in co-operation with the entomologist of the United States International Co-operation Administration, as insect pests were also prevalent on citrus trees in Jalalabad. During 1958, more than 1,500 citrus trees were sprayed by the Afghan staff under supervision, and spraying continued independently in many orchards in the province. In 1959, copper oxychloride (Cupravit) will be used in dace of Bordeaux mixture.

Red rot and smut of sugar cane

Sugar cane is extensively grown in Jalalabad, where the subtropical climate is very suitable to this crop. It is largely used for the production of "gur," a brown sugar. A small sugar factory is located in Jalalabad but has been idle since its establishment, except for a very short period in 1958. Two main varieties of sugar cane are grown, one locally known as "Vatani," of *Saccharum officinarum* type, and the other as "Parami," which is a Coimbatore cane.

Red rot caused by *Physalospora tucumanensis* is mostly confined to the "Vatani" variety and causes losses up to 30 percent of the crop (Figure 3). The "Parami" variety is comparatively free of this disease but is not very suitable for the production of "gur."

Sugar cane smut (*Ustilago scitaminea*) is very serious in the Mandrawal area of Jalalabad, where infection up to 20 percent has been recorded. However, in other parts of Jalalabad the disease is not of great importance.

During 1957/58 a campaign for the control of red rot and smut of sugar cane was initiated in Jalalabad province. For this purpose, two assistants were trained in the diagnosis of these diseases and in control methods. Pamphlets containing instructions in the local dialect on control measures were distributed to farmers in the province. For the control of red rot the following measures were recommended:

1. All canes showing red rot symptoms should be uprooted and burned.
2. Cane fields affected with red rot should not be ratooned but should be planted with other crops.
3. At the time of planting, each seed piece should be examined and any piece showing red color at the cut end should not be used for seed purposes.
4. Sugar cane fields should be properly embanked and irrigation water not allowed to move from one field to another. Instead, each field should receive irrigation water directly from the main water channel.
5. Wherever feasible, the " Vatani " variety should be replaced by the " Parami " variety.

For the control of sugar cane smut the following measures were recommended:

1. Cane fields affected with smut should not be ratooned.
2. All smut whips should be removed before the rupture of the silvery white membrane. If the membrane has already been ruptured, then the cane bearing the whip should be cut slowly so as not to shake off the black powder. The canes should then be removed from the field and the whips burned.
3. After removing the whip, all the canes of the clump in which the whip was produced should be uprooted, and in no case should they be used for seed.
4. If the holding is too large to carry out these recommendations for the entire field, a small plot for seed should be maintained.

During March 1958, ten sugar cane varieties which are resistant to red rot in India were imported and are being tested for their agronomic qualities and resistance to red rot under local conditions.

Apple scab

Apple scab (*Venturia inequalis*) is prevalent in Kabul and in other parts of Afghanistan. Demonstrations on the control of this disease were

Figure 3. Sugar cane infected with red rot (*Physalospora tucumanensis*) in Jalalabad, Afghanistan.

given in Karazamir during 1958. A dormant eradicant spray with 10 percent lime sulphur was applied in February, followed by two sprays of copper oxychloride in May. This control treatment was completely effective.

Wheat rusts

All the three rusts of wheat, stem rust (*Puccinia graminis tritici*), leaf rust (*P. triticina*) and stripe rust (*P. glumarum*), occur commonly in Afghanistan. In Jalalabad, where the climate is subtropical, wheat is planted in October to November and harvested in April to May. In Kabul and other parts of the country, winter wheat is planted in October to November and harvested in July, and spring wheat is planted in March and harvested in July to August.

Stripe rust first appears in Jalalabad around he third week of January and is followed by leaf rust and stem rust in March. In the Kabu area, stripe rust appears in early April and leaf and stem rusts in the second week of May.

Observations have been made on the extent of rust infection in the collection of wheat varieties introduced by the United States Technical Co-operation Mission and grown in the Kabul and Helmand valley areas. Among the introduced varieties, "Nebred" has been found to be highly resistant to stripe and stem rusts. As these rusts are known to cause immense losses during epidemic years, the Royal Afghan Ministry of Agriculture proposes to introduce "Nebred" wheat into the Kabul area as an immediate measure, in order to reduce losses until new resistant varieties can be developed. In addition, efforts have been made to determine the physiologic races of the rusts prevalent in Afghanistan, and to study their virulence on local and introduced wheat varieties.

Ovularia viciae and *Botrytis* sp. on Vetches in Italy

Alberto Matta, Istituto di Patologia vegetale, Università di Torino

In the spring of 1957 a severe and widespread disease was noticed in the commune of San Maurizio Canavese, infecting vetch (*Vicia villosa*) which was grown for fodder, together with Italian ryegrass (*Lolium italicum*). The disease caused considerable alarm not only because of the loss of fodder but also because the diseased plants were suspected of having caused severe poisoning to cattle.

The infection was first noted at the beginning of April and, being favored by exceptionally rainy weather, it spread rapidly and increased in intensity until the first cut at the end of May. Not taking into account the decrease in nutritive value and eventual toxic effects, the loss in forage yield, by rough visual calculation, was estimated at 40 to 50 percent.

Diseased plants suffered from intense defoliation at the lower three fourths of the stem, and many of them retained only a tuft of terminal leaves (Figure 1). Defoliation was often so severe that the ground was covered with a layer of deformed evil-smelling leaflets.

All the epigeous parts of the affected plant at first revealed small brown spots, well defined

Figure 1. Vetch plant infected by *Ovularia viciae*, showing withering of leaves.

Figure 2. Fructifications of *Ovularia viciae*. X 350.

and occasionally surrounded by discolored tissue. On leaflets the spots were irregularly circular, whereas on stems and pedicels they were rather elongated and often coalesced to form larger lesions of darker color. When an affected organ was examined microscopically, a light-colored mycelium was found to develop inter- and intracellularly, extending into the epidermis and in particular to the part of parenchyma immediately underneath the epidermis of leaflets, pedicels and stems, but was never seen penetrating the xylem or phloem vessels.

On all the affected organs, the presence of small whitish gray dots was frequently observed in the more profoundly deformed parts, and if on leaflets, they occurred on both sides. The dots consist of tufts of hyaline conidiophores grown from brown stromata and emerging through stomata (Figure 2). The number of conidiphores in each tuft is highly variable, ranging from 20 to 180. The conidiophores are simple, flexuous and rarely septated, measuring $50-150\times3.2-4\,\mu$. Conidia are borne terminally

or laterally on conidiophores, and they are subglobose, hyaline, unicellular measuring 10–13 × 14.3–15.2 μ. These characteristics place this fungus in the genus *Ovularia*.

According to the literature available, the following species of Ovularia were recorded on *Vicia*:

Ovularia fallax (Bonn.) Sacc. on *Vicia cassubica*, *V. cracca*, *V. pyrenaica* and *V. villosa* (3).

O. schwarziana Magn. on *V. atropurpurea*, *V. sativa* and *V. villosa* (3, 5).

O. sphaeroidea Sacc. on *V. sativa* and *V. villosa* (3).

O. viciae (Frank) Sacc. on *V. atropurpurea* (= *V. benghalensis*), *V. cassubica*, *V. tenuifolia* and *V. villosa* (2, 3).

O. villiana Magn. on *V. cassubica* (3).

Although the available descriptions of the above-mentioned species were very incomplete, the fungus under consideration was identified as *Ovularia viciae*, on the basis of the form of conidiophores. The conidiophores of *O. viciae*, as described above, are flexuous. On the contrary, both *O. villiana* and *O. fallax* have ramified conidiophores; *O. sphaeroidea* has hypophyllous or amphigenous conidiophores and larger conidia; and *O. schwarziana* has erect conidiophores.

Numerous trials to isolate the *Ovularia* species on agar media failed, because its growth was suppressed by a *Botrytis* species of *cinerea* type, which produced scarce mycelium and numerous flat black sclerotia, 2 to 5 millimeters in diameter. These sclerotia were partially sunken in the substratum and sometimes produced microconidia.

Inoculation of vetch plants with mycelial suspension obtained by grinding cultures of the fungus on carrot agar, though successful, did not produce symptoms similar to those described above. The symptoms thus induced, however, conformed well with those described by Weimer (4) for a disease caused by *Botrytis cinerea*, which was observed in the field on *Vicia angustifolia*, and artificially reproduced on *V. grandiflora* and *V. atropurpurea*. The necrotic spots, in which characteristic fructifications of *Botrytis* occurred, have a light-colored center and are surrounded by a brown halo.

The vetch disease observed appears to be caused by a simultaneous infection of *Ovularia viciae* and a *Botrytis* species of *cinerea* type.

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Plant Quarantine Announcements

COLOMBIA

Decree No. 1936 of 26 September 1958, published in the *Diario Oficial* No. 29793 on 17 October 1958, regulates the importation of cacao. Cacao beans destined for importation must be completely dry, in perfect sanitary condition, packed in tightly woven fiber bags, and accompanied by a phytosanitary certificate issued by the authorities of the country of origin and certified by the respective Colombian consulate.

FEDERAL REPUBLIC OF GERMANY

Ordinance of 20 February 1959 amends the Plant Inspection Ordinance of 23 August 1957 (see *FAO Plant Prot. Bull.* 6 : 27-29. 1957). The amendments came into force on 1 March 1959, except provisions regarding certification of cereals, oil cakes and dry pulses (see *FAO Plant Prot. Bull.* 6 : 174. 1958), which will not come into effect until 1 March 1961.

1. The following species are added to the list of plant pests and diseases, the introduction of which is prohibited.

Erwinia amylovora
Coniothyrium diplodiella
Gloesporium ampelophagum
Septoria musiva
Anarsia lineatella

2. Importation of vines is prohibited if found infected with *Agrobacterium tumefaciens*.

3. The new ordinance clarifies that provisions regarding the importation of rooted azaleas (*Rhododendron*) and chrysanthemums (*Chrysanthemum*), as given in the Plant Inspection Ordinance, do not apply to the genus *Rhododendron* or *Chrysanthemum* as a whole but only to species known in Germany as "Azaleen" or "Chrysanthemen" respectively.

4. The importation of living oaks of all species of *Quercus* (excluding fruit and seed) from Canada and the United States is prohibited. This replaces the provision given in the Plant Inspection Ordinance that only certain specified species of living oaks from non-European countries were prohibited.

5. Importation of living poplars (*Populus* spp.) (except fruit and seed) from the United States is prohibited on account of *Septoria musiva*.

6. Fruit trees and shrubs may be imported only if inspected during the growing season and found to be free from *Erwinia amylovora*, in addition to virus diseases as provided in the Plant Inspection Ordinance.

7. As a new restriction, timber and sawn wood of oak destined for importation must originate from areas free from *Endoconidiophora fagacearum*.

8. Certification and inspection are no longer required for the importation of citrons (*Citrus medica*) and fruits without fleshy skin, such as coconuts and groundnuts.

9. Magnolia (*Magnolia*), azalea and rhododendron (*Rhododendron*) grown in certain European countries, as well as plants for the production of drugs, are exempt from the requirement of disinfection.

10. Phytosanitary certificates will not be required to accompany the consignments of cereals, oil cakes of plant origin and dry pulses, before 1 March 1961.

In addition to the above provisions, the new ordinance also establishes measures to further facilitate tourist traffic, and contains a revised list of points of entry. Transit shipments are no longer required to enter the prescribed points of entry.

NICARAGUA

Decree No. 344 of 13 August 1958 promulgates a new plant protection law which provides for the establishment of a Plant Protection Department within the Ministry of Agriculture. The new law also specifies the regulatory powers of the Ministry of Agriculture and the powers

of inspectors in relation to the development of quarantine stations, the importation of plant material and harmful organisms, the supervision and certification of exports of plant material, and the control or eradication of pests or diseases existing within the country.

This new law revokes any other disposition that might be in contradiction to its provisions.

SEYCHELLES

Plant Pests (Amendment) Ordinance 1958 (Ordinance No. 5 of 1958), published in the Supplement to the *Seychelles Gazette* of 15 September 1958, repeals and replaces Sections 5, 6 and 17 of the Plant Pests Ordinance of 27 June 1915.

The new Section 5, which deals with restrictions on importation of plants, provides that no plants nor their packages may be imported, except with a plant import permit issued by the director of agriculture or a person delegated by him, and in compliance with the terms and conditions of the permit. All plants and packages thereof should be landed at the Customs House at Victoria on the Isle of Mahé, unless written permission has been obtained from the director of agriculture to land them at any other place. Whether such imported plants and packages thereof are covered by a plant import permit or not, they will be subject to inspection, disinfection or other treatment, such as growth under supervision, or destruction.

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